

2007 Second International Conference on Bio-Inspired Computing: Theories and Applications

(BIC-TA 2007)

**Zhengzhou, China
14 – 17 September 2007**



IEEE Catalog Number: CFP0701F-PRT
ISBN: 978-1-4244-4105-1

TABLE OF CONTENTS

A New Evolutionary Neural Network Algorithm Based on Improved Genetic Algorithm and its Application in Power Transformer Fault Diagnosis.....	1
<i>T. Yan, D. Cui, Y. Tao</i>	
A Note on Global Exponentially Stability of Neural Networks with Multiple Time Delays.....	6
<i>J. Shao, T. Huang</i>	
Support Vector Machine Applied to the Semantic Interpretation of VN Compound.....	10
<i>J. Zhao, H. Liu, R. Lu</i>	
Quantum-Inspired Evolutionary Algorithm Based on Estimation Of Distribution.....	17
<i>M. Chen, H. Quan</i>	
A High-Order Multiscale Features Incorporated Bayesian Method for Cerebrovascular Segmentation from TOF MRA	20
<i>J. Hao, M. Li</i>	
Intelligent Method for Condition Diagnosis of Pump System Using Discrete Wavelet Transform, Rough Sets and Neural Network	24
<i>H. Wang, P. Chen</i>	
Convergence of Gradient Descent Algorithm for Diagonal Recurrent Neural Networks	29
<i>D. Xu, Z. Li, W. Wu, X. Ding, D. Qu</i>	
Using Tableaux Method to Represent Inconsistent Knowledge of Deep Web	32
<i>Q. Liu, Z. Cui, W. Yao, W. Zhou, Y. Fu, X. Ling</i>	
Immune Clonal Selection Optimization Method with Mixed Mutation Strategies	37
<i>L. Liang, G. Xu, D. Liu, S. Zhao</i>	
Application of Wavelet Neural Networks for Recognizing the Patterns of Wood Inner Defects	42
<i>L. Wang, W. Qi, L. Li, J. Wu, W. Hou</i>	
Vibration Fault Diagnosis of Hydraulic Generator Units Based on Pattern Recognition and Grey Incidence Analysis	48
<i>X. An, J. Zhou, L. Liu, R. Fang, X. Xiang, B. Peng</i>	
Discharge Patterns' Change of Hindmarsh-Rose Neurons under Slow Ramp Current Stimulation.....	52
<i>Y. Peng, J. Wang</i>	
On the Amin Method and Its Applications in the Real Options with Interventions under Jump-Diffusion Processes.....	56
<i>X. Jiang</i>	
Multi-focus Image Fusion Algorithm Based on Regional Firing Characteristic of Pulse Coupled Neural Networks	62
<i>X. Qu, J. Yan</i>	
Subspace Index Method for 3D Human Motion.....	67
<i>J. Xiang, H. Zhu</i>	
Self-adapted Hybrid Genetic Algorithm for Job Scheduling of Distributed Manufacturing System	70
<i>J. Yang, G. Cui, X. Hu</i>	

Quantitative Analysis the Protein of Millet by Artificial Neural Network and Fourier Coefficients of Near Infrared Diffuse Reflectance Spectroscopy	74
<i>H. Ji, Z. Rao</i>	
Aggregate Operator Defined on Partition of Space and Its Application to ID3 Algorithm	77
<i>J. Zhai, S. Zhang, Z. Li</i>	
Approximation Capability to Compact Sets of Functions and Operators by Feedforward Neural Networks.....	82
<i>W. Wu, D. Nan, Z. Li, J. Long, J. Wang</i>	
Open, Dynamic and Continuous One-to-Many Negotiation System	87
<i>T. Sun, Q. Zhu, S. Li, M. Zhou</i>	
Typhoon Image Denoising in Curvelet Domain	94
<i>C. Zhang, X. Lu</i>	
Bibliomics-based Selection of Analgesics Targets through Google-PageRank-like Algorithm.....	98
<i>L. Yang, B. Wang, G. Xia, Z. Xia, L. Xu</i>	
Ontology-based Biomedical Literature Management for Competitive Analysis.....	102
<i>J. Li, M. Huang, X. Zhu</i>	
Relation between Analysis Filters' Symmetry Polarities and Lengths of M-channel Alias Free Linear Phase Filter Banks	108
<i>A. Peng, S. Zhuang</i>	
The Study of Compost Quality Evaluation Modeling Method Based on Classify Support Vector Machine for Sewage Treatment.....	111
<i>J. Tian, Q. Feng, M. Gao</i>	
A New Multi-class Classification Based on Non-linear SVM and Decision Tree	117
<i>J. Wang, Y. Yao, Z. Liu</i>	
Interactions between Biological Cells and Intense Pulsed Electrical Fields.....	120
<i>X. Chen, Y. Wen, W. Liu</i>	
A New Completely Digital Recovery Circuit Design of High Speed Serial Interface System.....	124
<i>W. Cheng, Y. Sun, Z. Tan, G. Chang</i>	
Model and Optimization of Mobile Agent's Migration in Grid	127
<i>Z. Zhang, W. Cheng</i>	
Mean Square Exponential Stability of Stochastic Cellular Neural Networks with Time-varying Delays	131
<i>C. Huang, Y. He, Y. Zhang</i>	
An Efficient Algorithm for Quantile Computation over Streaming Data.....	136
<i>B. Yang, H. Huang, Z. Wang</i>	
Design of Temperature Measurement and Control of Heating Field in the Radio-Frequency Glioma Hyperthermia System.....	142
<i>X. Jiang, L. Zhang</i>	
Adaptive Control for Single-Phase Unified Power Quality Conditioner Using Neural Networks	146
<i>C. Li, Y. Rong, L. Cao, X. Zheng</i>	
Partition of Discrete Numerical Interval Based on Local Outlier Coefficient Wave Method	151
<i>Q. Zhang, L. Sun, L. Zhen, Y. Jin</i>	
Research into Bank Loan Risk Based on UDM and Self-adaptive RBF Neural Network	154
<i>K. Yan</i>	

Searching Business Information with Hopfield Neural Network in Electronic Commerce Environment	159
Z. Wang, Q. Wang, D. Wang	
Transient Response Testing (TRT) of Intelligent Sensors Interface in Switched Current Technology	164
J. Guo, Y. He	
Single Neuron Controller Design Including FACTS Devices	168
P. He, Q. Feng, Y. Wei, K. Wang	
The Comparison of BP Network and RBF Network in Wind Power Prediction Application	173
S. Han, Y. Yang, Y. Liu	
A Preliminary Study on Vocal Tract System of Chinese Whispered Vowels	177
C. Gong, H. Zhao, G. Lu, J. Liu	
SVM-based Protein-Protein Interaction Extraction from Medline Abstracts	182
B. Cui, H. Lin, Z. Yang	
A Novel Method for Upper and Lower Approximation of Class Unions Based on Dominance-matrix	186
J. Zhang, B. Zhang, Y. Guo, L. He, Z. Cai	
Recursive Least-squares Reinforcement Learning Controller Based on General Fuzzy CMAC	191
Z. Shen, N. Zhang, C. Guo	
Forecast of Tourism Emergency Events Based on Quantum Immune Clone Algorithm	196
J. Du, Y. Tian	
Modeling and Shape Analyzing of the SBP-Dependent ABC Uptake Transporter based Upon Mobile Ambients	200
H. Zhang, L. Liu	
A Web Document Retrieval Algorithm Based on Particle Swarm Optimization	203
Z. Wang, X. Sun, D. Zhang	
Study of Engineering Project Bidding Evaluation and Decision-making Method Based on DEA	207
B. Shi, C. Wu, G. Cui	
Simulation on Semiconductor Device Based on CPSO Algorithm	211
K. Xia, N. Xu, F. Yang, R. Yang	
Block-wise Fragile Watermarking Scheme Based on Scramble Encryption	216
H. He, J. Zhang, F. Chen	
Neural Fuzzy Prediction Control of an Industrial Grinding Process	221
D. Ning, D. Zhang, X. Liu	
Biometric User Identification with Dynamic Footprint	225
J. Yun, G. Abowd, W. Woo, J. Ryu	
Fault Diagnosis for Induction Motors Using the Wavelet Ridge	231
C. Yang, G. Cui, Y. Wei, Y. Wang	
Scatter Search for Rough Set Attribute Reduction	236
J. Wang, A. Hedar, S. Wang	
The Use of the Study on TCM Syndrome Diagnostic Criteria According to Entropy-based Partition Method for Complex System	241
H. Gao, Y. Wu, J. Chen, G. Xi, Z. Jia	

Adaptive Backstepping Control of Crane Hoisting System.....	245
<i>L. Cao, H. Wang, C. Niu, S. Wei</i>	
A Branch and Cut Algorithm for DNA Encoding.....	249
<i>Z. Wang, Z. Shao</i>	
Comprehensive Evaluation Model of DNA Codewords Based on Combined Weight Method	254
<i>Y. Wang, Y. Niu, X. Zhang, G. Cui</i>	
Numerical Simulation of Refrigerated Display Cabinets.....	258
<i>Y. Lv, W. Zhang, Y. Gong, W. Tao</i>	
A Novel Bargaining Protocol for Open E-Marketplaces	263
<i>L. Hong, Z. Wang, H. Song, X. Chen</i>	
The Spline Function Method and Finite Element Analysis of Double Circular Arc Gear	269
<i>J. Liu, Yu-lin Liu, Z. Lu, A. Li, Yong-jun Liu</i>	
The Determinants of Capital Structure: Consider The Influence of China's Non-tradable Share Reform.....	275
<i>X. Li, T. Wang</i>	
An Anti-windup Design for Linear Parameter Variation Systems with Input Saturation	281
<i>J. Guo, Y. Wang, G. Cui, X. Huang</i>	
A Diagnostic Approach to Power Transformers Based on Genetic Wavelet Networks Sample	285
<i>Y. Wei, X. Li, G. Cui, A. Zheng</i>	
Author Index	